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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/679,686

10/06/2003

Francis J. O'Brien JR.

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01/21/2005

NAVAL UNDERSEA WARFARE CENTER

DIVISION NEWPORT

1176 HOWELL STREET, CODE 000C

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NEWPORT, RI 02841

EXAMINER

WACHSMAN, HAL D

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/679,686

Applicant(s)

O'BRIEN, FRANCIS J.

Examiner

Hal D Wachsman

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-15 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. This application is in condition for allowance except for the following formal matters:

a) The drawings are objected to because what is shown in Figures 1, 2, 4 and 5, was known in the prior art (see U.S. patent no. 6,466,516) however these figures were not labeled as "Prior Art". In addition, the Brief Description of the Drawings does not refer to these figures as prior art.

Also the drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the providing of first and second stage characterizations of a spatial arrangement of a first three-dimensional time series distribution of data points with the comparing of the first and second stage characterizations to determine the presence of randomness in the time series distribution must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. Any new additional drawing sheets submitted must be identified in the top margin as "New Sheet". If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

b) Page 10, line 24, of the specification refers to "lower random barrier" however was this intended to be "lower random boundary" ? Appropriate explanation/correction is required.

c) The Abstract is objected to because it contains legal phraseology (i.e. "said time series distribution", "said grids", "said expected value"). In addition, the Abstract states "The utilizes two-stage method..." however what exactly here is utilizing the two-stage method ? Appropriate correction is required.

d) The listing of references in the specification is not a proper information disclosure statement (see pages 3-7 of the specification). 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

e) Claims 13-15 are objected to under 37 C.F.R. 1.52 because the lettering/numbering in at least several locations in the equations is too small. Appropriate correction is required.

f) The specification is objected to because page 6, lines 13-14, cite "*said* time series distribution". This same type of problem also occurs on page 7, lines 7-8 and page 8, line 2. Appropriate correction is required.

g) Claims 1-15 are objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Claim 1, lines 14-15, cite "...comprising the steps of ;" however as a series of steps which follows after this are belong to the "providing a first stage characterization..." it appears that a colon instead of a semicolon belongs after the word "of" in line 15 of the claim. This same type of problem also occurs in claim 1, line 38. In claim 1, line 30, "M" needs to be defined. Claim 1, line 30, cites "lower random barrier" however was this intended to be "lower random boundary" ? This same type of problem also occurs in claim 1, line 32, claim 6, line 2. Claim 1, line 33, cites "*said* first time series distribution" however the antecedent basis is "first three-dimensional time series distribution". Claim 1, line 54, cites "*said* sparse data" however it appears that the antecedent basis is "sparse number of *said* data points". This same type of problem also occurs in claim 10, line 2. Claim 1, line 61, cites "*said* time series distributions" however was this intended to be "*said* first three-dimensional time series distribution" ? The preambles of all the claims that depend from claim 1 cite "The method..." however the preamble of claim 1 cites "A *two-stage* method...". Claim 2, line 6, cites "...then

continuing...." however was this intended to be "...then continue..." ? Claim 4, lines 2-3, cite "each of said plurality of three- dimensional time series distribution" which it appears should be "each of said plurality of three- dimensional time series distributions". It appears that a colon is needed at the end of line 2 in claim 12. In addition, there is no period in claim 12 to show where the claim ends. There are several variables in claim 13 such as "P", "Z" and "x", which have not been defined. In claim 15, "K" and "N" have not been defined. The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

2. The following references are cited as being art of general interest: O'Brien, Jr. et al. (6,466,516) which disclose the detection of randomness in three dimensional time series distributions made up of sparse data sets, Matsuoka et al. (5,956,702) which disclose a time-series trend estimating system, O'Brien, Jr. et al. (6,397,234) which disclose the detection of randomness in three dimensional time series distributions made up of sparse data sets and O'Brien, Jr. et al. (6,597,634) which disclose stochastic characterization of sparse underwater-sound signals.


3. Claims 1-15 are allowable over the prior art because the prior art does not disclose or suggest: providing a first stage characterization of a spatial arrangement of a first three-dimensional time series distribution of data points including statistically determining an upper random boundary greater than M and a lower random barrier less than M such that if a number m , which represents the number of three-dimensional volumes which actually contain at least one of the data points in the first three-dimensional time series distribution, is between the upper random boundary and the lower random barrier then the first three-dimensional time series distribution is characterized as random in structure during the first stage characterization; and providing a second stage characterization of the first three-dimensional time series distribution of the data points and comparing the first stage characterization of the first three-dimensional time series distribution of the data points with the second stage characterization of the first three-dimensional time series distribution of the data points to determine the presence of randomness in the time series distributions.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2857

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hal D Wachsman
Primary Examiner
Art Unit 2857

HW
January 18, 2005